APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/791,724	01/29/97	PRYOR R	S87.506/SD59

LM02/0707

SANDIA NATIONAL LABORATORIES
PATENT AND LICENSING CENTER
P O BOX 5800   MS 0161
ALBUQUERQUE NM 87185-0161

EXAMINER
KEMPER, M

ART UNIT	PAPER NUMBER
2764	8

DATE MAILED:

07/07/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 08/791729	Applicant(s) Pryor et al.
	Examiner Kemper	Group Art Unit 2764

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____3____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication .
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

☑ Responsive to communication(s) filed on ___4/22/99___ .

☑ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

☑ Claim(s) ~~1-9~~ 1-8, 10-19 _____ is/are pending in the application.

   Of the above claim(s) _18-19_ _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☑ Claim(s) _1-8, 10-17_ _____ is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 11 9(a)-(d).

   ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

   ☐ received.

   ☐ received in Application No. (Series Code/Serial Number)_____ .

   ☐ received in this national stage application from the International Bureau (PCT Rule 1 7.2(a)).

   *Certified copies not received:_____ .

Attachment(s)

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____   ☐ Interview Summary, PTO-413

☐ Notice of Reference(s) Cited, PTO-892   ☐ Notice of Informal Patent Application, PTO-152

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948   ☐ Other_____

Office Action Summary

1.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2.   Claims 1-8, 10-17 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.

Claim 1 does not claim either pre-computer process activity or post-computer process

activity or a practical application in the technological arts. For that matter, claim 1 is not

considered part of the technological arts. Without falling into one of these categories, the claim is

not considered statutory. For instance, the preamble merely sets forth the intended use or field of

use of predicting a change in the economy and does not set forth a practical application in the

technological arts. The steps of the claim relating to representing decision makers, initializing the

internal state of each agent, and generating and routing messages are considered to be necessary

antecedent steps to performance of the mathematical operation or determination of new values.

Also, the outputting a representation of the change merely conveys the result of the operation.

While claim 2 does introduce the method into the technological arts, the claim still does

not provide pre- or post- computer process activity or a practical application. The remainder of

the dependent claims also do not provide pre- or post- computer process activity or a practical

application but rather describe the mathematical process or determination or description of the

input necessary for the determination.

Similarly, claim 10 is within the technological arts, but does not provide pre- or post-computer process activity or a practical application for predicting a change in an economy. Without falling into one of these categories, the claim is not considered statutory. For instance, the preamble merely sets forth the intended use or field of use of predicting a change in the economy and does not set forth a practical application in the technological arts. The steps of the claim relating to representing decision makers, initializing the internal state of each agent, and generating and routing messages are considered to be necessary antecedent steps to performance of the mathematical operation or determination of new values. Also, the outputting a representation of the change merely conveys the result of the operation. Similarly the dependent claims also do not provide pre- or post- computer process activity or a practical application but rather describe the mathematical process or determination or description of the input necessary for the determination.

The hardware elements of claims 16-17 are directed to a general purpose computer as described in the specification. No specific code or programming and/or no specific hardware is included to constitute a specific machine. Therefore, the underlying process is examined and is determined to be non-statutory since the process does not include pre- or post- processing steps such as a direct measurement (as made by using sensors) or a control step based upon the result. Also, the claims are not limited to a practical application since the output, or result, is not used in any practical manner or application. The claims messaging amounts to input/output necessary for the processing operations of predicting a change in the economy.

3.   Newly submitted claims 18-19 are directed to an invention that is independent or distinct

from the invention originally claimed for the following reasons: The claims are directed to a

military confrontation economy which does not include the same agents as the originally presented

economic prediction and performs simulating battlefield communications and selecting campaign

strategies not related to the originally presented claims.

        Since applicant has received an action on the merits for the originally presented invention,

this invention has been constructively elected by original presentation for prosecution on the

merits. Accordingly, claims 18-19 are withdrawn from consideration as being directed to a non-

elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

4.   Applicant's arguments filed on 4/22/99 have been fully considered but they are not

persuasive.

        The applicant argues that the present claims are directed to a practical application in the

technological arts. However, practical application refers to how the process or output is used in

an application. In the present claims, the result is merely outputted with no use of the output

associated therewith. The prediction of a change in an economy by processing a specific type of

model does not represent a practical application. First, no specific type of model is disclosed or

claimed (no specific rules are given in the specification) and second, the output is not used in any

way. Likewise, the claims fail to reflect the practical utility in the technological arts. While the

claims are directed to an economic system, the results of the simulation are not used in any way.

The applicant states that the invention can be applied to a hypothetical system to predict

experimental outcomes by simulating complex interactions, decision rules, and options (however,

these complex interactions or decision rules are not specified) which cannot be adequately

described by closed-form analytic equations and which may have no historical data from which to

apply traditional regression and forecasting techniques. However, in the specification, there is an

example of using probabilities in the decision rules which clearly reflects a mathematical algorithm

as part of the model or simulation. Alternatively, without other specific rules, a user could use

any rule which would perform the function and which could comprise mere comparisons which is

also considered mathematical (subtractions).

The applicant also argues that the claims are directed to using a specific machine.

However, according to the specification the machine is a general purpose computer. Claims

which are directed to a machine which comprises a general purpose computer are examined

according to the underlying method which has been determined to be non-statutory as discussed

above.

While the present invention may model a real thing, an economy, this is not enough to

constitute statutory subject matter. For example consider claims which are directed to a process

that calculates a mathematical algorithm modeling/simulating noise (a real thing/problem in signal

analysis) would be considered non-statutory while a method for digitally filtering noise employing

a mathematical algorithm would be considered statutory subject matter (performing a practical

application).

The applicant argues that claim 1 is statutory because the claims are directed to a practical

application and since the claims do not recite a mathematical algorithm. However, as discussed

above, outputting a representation of the change in the economy (outputting a result, presumably

a number) without use is not considered statutory. Also, the specification refers to calculating a

probability which is mathematical. The claims do not have to directly recite a mathematical

algorithm to be considered non-statutory if the process of performing a determination or modeling

or simulation is mathematical as described in the specification. Also the use of multiple

processors as in claim 2 does not bring the claims into the statutory realm since this refers to a

general purpose computer as described in the specification. Claims including elements of a

general purpose computer are examined according to the underlying process. Also, the claims are

not considered to be a specific machine when a general purpose computer is used and when no

specific code or program is disclosed. Also the routing of messages of claim 5 refers to

input/output necessary for the processing steps and also do not constitute statutory subject

matter. This input/output are also not directed to direct measurements by a sensor or control

steps which would be considered statutory. Similar arguments are made concerning the remaining

claims are unpersuasive for the reasons given above.

The applicant cites part of MPEP section 2106 IV B. 2 (a) in support of the claims being
directed to a specific machine.
" If a claim defines a useful machine or manufacture by identifying the physical structure

of the machine or manufacture in terms of its hardware or hardware and software
combination, it defines a statutory product. See, e.g., Lowry, 32 F.3d at 1583, 32
USPQ2d at 1034-35; Warmerdam, 33 F.3d at 1361-62, 31 USPQ2d at 1760.

A machine or manufacture claim may be one of two types: (1) a claim that

encompasses any and every machine for performing the underlying process or any and
every manufacture that can cause a computer to perform the underlying process, or (2) a
claim that defines a specific machine or manufacture. When a claim is of the first type,
Office personnel are to evaluate the underlying process the computer will perform in
order to determine the patentability of the product.

I) Claims That Encompass Any Machine or Manufacture Embodiment of a Process

Office personnel must treat each claim as a whole. The mere fact that a hardware

element is recited in a claim does not necessarily limit the claim to a specific machine or
manufacture. Cf. In re Iwahashi, 888 F.2d 1370, 1374-75, 12 USPQ2d 1908, 1911-12
(Fed. Cir. 1989), cited with approval in Alappat, 33 F.3d at 1544 n.24, 31 USPQ2d at
1558 n.24. If a product claim encompasses any and every computer implementation of a
process, when read in light of the specification, it should be examined on the basis of the
underlying process. Such a claim can be recognized as it will:
   (A) define the physical characteristics of a computer or computer component
       exclusively as functions or steps to be performed on or by a computer, and

   (B) encompass any and every product in the stated class (e.g., computer, computer-
       readable memory) configured in any manner to perform that process."

However, as the specification states, a general purpose computer (any machine) is used.

According to the guidelines, the underlying process is examined and has been determined to be

non-statutory.

5.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office
action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is
reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
      A shortened statutory period for reply to this final action is set to expire THREE
MONTHS from the mailing date of this action. In the event a first reply is filed within TWO
MONTHS of the mailing date of this final action and the advisory action is not mailed until after
the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6.   **Any response to this action should be mailed to:**

> Commissioner of Patents and Trademarks
> Washington, D.C. 20231

> **or faxed to:**
> (703) 308-9051, (for formal communications intended for entry)
> **Or:**
> (703) 308-5357 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

> Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

7.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Kemper, whose telephone number is 703-305-9589. The examiner can normally be reached on Monday-Thursday from 8:30-6:00. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jim Trammell, can be reached at 703-305-9768.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is 703-305-3900.

M. Kemper
July 2, 1999

M. Kemper
Primary Examiner
Art Unit 2764